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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/634,552	08/08/2000	Ahmadreza Rofougaran	36601/CAG/B600	4410

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CHRISTIE, PARKER & HALE, LLP
350 WEST COLORADO BOULEVARD
SUITE 500
PASADENA, CA 91105

EXAMINER

HARRY, ANDREW T

ART UNIT PAPER NUMBER

2684

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

N.K.

Office Action Summary	Application No.	Applicant(s)	
	09/634,552	ROFOUGARAN ET AL.	
	Examiner	Art Unit	
	Andrew T Harry	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-163 is/are pending in the application.
- 4a) Of the above claim(s) 130-163 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-129 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-129, drawn to transceiver device, classified in class 455, subclass 73.
- II. Claim 130-163, drawn to integrated circuit, classified in class 331, subclass 107R.

The inventions are distinct, each from the other because of the following reasons:

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Steven Burbach on February 21, 2003 a provisional election was made without traverse to prosecute the invention of transceiver device, claims 1-129. Affirmation of this election must be made by applicant in replying to this Office action. Claims 130-163 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9, 13-29, 32-48, 51-83, 85-128 are rejected under 35 U.S.C. 102(e) as being anticipated by *Meador et al.* U.S. Patent 5,953,640 ("*Meador*").

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As pertaining to **claims 1, 32, 51, 66, 85, and 112**, *Meador* teaches a method an apparatus for wireless communications using a receiver, transmitter and local oscillator, comprising:

programming a frequency of a clock in the local oscillator (see *Meador*, col. 4 lines 44-50);
receiving a first signal at the receiver from a wireless source (see *Meador*, col.2 lines 25-29);
downconverting the received first signal with the clock (see *Meador*, col. 3 lines 23-33);
upconverting a second signal with the clock (see *Meador*, col. 4 lines 38-50); and
transmitting the upconverted second signal from the transmitter into space (see *Meador*, col. 4 lines 38-43).

As pertaining to **claims 2-10, 13, 33-37, 42-43, 52-58, 67-70, 86-95, 113-117 and 123**, *Meador* teaches that the transmission/reception of the first/second signal comprises filtering the signal with a filter and amplifying the signal with an amplifier, and the programming comprises programming a frequency band of the filter and programming gain of the amplifier (see *Meador*, col. 3 line 1-col. 4 line 22 and col. 6 lines 30-43). The reception of the first signal includes downconverting the signal to an intermediate frequency then a baseband signal and demodulating the first signal, and the programming comprises programming a demodulation for the demodulator (see *Meador*, col. 3 line 23-col. 6 line 43).

As pertaining to **claims 14-18, 38-41, 72, 97-99, 118-121**, *Meador* teaches that the downconversion comprises mixing the first signal with a clock and that second clock is mixed with a third clock (see *Meador*, col. 3 lines 23-33). *Meador* also teaches that the third clock is

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generated by dividing the second clock by an integer N and the clock comprises a frequency f_{LO} equal to $f_{VCO} (N+1)/N$ wherein f_{VCO} equals a frequency of the second clock where $N=2$ (see *Meador*, col. 3 line 34-col. 4 line 22).

As pertaining to **claims 19-24 and 100-105**, *Meador* teaches upconverting the second signal before transmission into space with a second clock that is mixed with a third clock. (see *Meador*, col. 4 lines 38-50). *Meador* also teaches that the third clock is generated by dividing the second clock by an integer N and the clock comprises a frequency f_{LO} equal to $f_{VCO} (N+1)/N$ wherein f_{VCO} equals a frequency of the second clock where $N=2$ (see *Meador*, col. 3 line 34-col. 4 line 22).

As pertaining to **claims 25-27, 44-46, 78-80, 106-108, and 124-126**, *Meador* teaches that the receiver and transmitter each have a component and that his method and apparatus comprises calibrating one of the transmitter and receiver components, and the components include capacitors and resistors (see *Meador*, col. 6 line 44-col. 7 line 65).

As pertaining to **claims 28-29, 47-48, 81-83, 109-110, 127-128**, *Meador* teaches the calibration comprises calibrating the receiver or transmitter component before the first signal is transmitted or received, and that the receiver or transmitter can be recalibrated (see *Meador*, col. 3 line 34-col. 4 line 22).

As pertaining to **claims 11-12 and 59**, *Meador* teaches that his receiver component comprises a second amplifier having a programmable gain, and the receiver also comprises a second filter coupled to the second amplifier and having a programmable frequency band, and a demodulator coupled to the second filter and having programmable demodulation (see *Meador*, col. 3 line 1-col. 4 line 22 and col. 6 lines 30-43).

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As pertaining to **claims 60-65**, *Meador* teaches that a local oscillator (LO) is coupled to the receiver and transmitter (see *Meador*, col. 3 lines 47-64). The LO comprises a clock generator which outputs a clock to the receiver and transmitter (see *Meador*, col. 4 lines 38-47). The transmitter comprises a mixer to mix the clock with the baseband signal (see *Meador*, col. 4 lines 23-37). The transmitter further comprises an amplifier and filter coupled to the mixer, the amplifier or filter can both be the programmable transmitter component (see *Meador*, col. 3 line 1-col. 4 line 22 and col. 6 lines 30-43). The transmitter also has a mixer (see *Meador*, col. 3 line 1-col. 4 line 22 and col. 6 lines 30-43).

As pertaining to **claims 71**, *Meador* teaches that his transmitter component comprises a second filter with a programmable frequency band to filter a baseband signal, and wherein the transmitter further comprises a third mixer coupled to the second filter to mix the clock with the filtered baseband signal, and a second amplifier coupled to the third mixer and having a programmable gain (see *Meador*, col. 3 line 1-col. 4 line 43 and col. 6 lines 30-43).

As pertaining to **claims 73-76**, *Meador* teaches that the second clock generator comprises an oscillator and a divider coupled to the oscillator, the divider having a control input coupled to the controller to program a frequency of the second clock. The clock generator comprises a voltage controlled oscillator (VCO) to generate the clock, the VCO having a frequency different than that of the clock and a mixer is coupled to both the divider and the VCO (see *Meador*, col. 3 line 1-col. 4 line 50 and col. 6 lines 30-43). The divider also comprises a control input coupled to the controller to program the frequency of the clock (see *Meador*, col. 3 line 1-col. 4 line 50 and col. 6 lines 30-43).

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As pertaining to **claim 77**, *Meador* teaches that the clock generator further comprises a phase lock loop having a control input coupled to the controller to program the frequency of the VCO (see *Meador*, col. 5 line 1-col. 6 line 67).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30-31, 49-50, 84, and 129 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Meador*.

Claims 30-31, 49-50, 84, and 129, relate to the testing and recalibration of components in the claimed invention. It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a method of testing the signal quality and operation of system components in *Meador*'s design in order to troubleshoot any system problems that may have arisen. The implementation of such a testing and recalibration in the claimed invention does not make it novel over *Meador* and is deemed to be an obvious addition/modification to the prior art made of record.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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B. Hesselet et al. U.S. Patent 6,343,207 teaches field programmable radio frequency communications equipment.

C. Philips et al. U.S. Patent 5,872,810 teaches a programmable modem apparatus.

D. Sainton et al. U.S. Patent 6,134,453 teaches an adaptive omni-modal radio apparatus and methods.

E. Phillips et al. 6,072,994 teaches a digitally programmable multifunction radio system architecture.

F. MacLellan et al. U.S. Patent 6,185,418 teaches an adaptive digital radio communication system.

G. Johnson et al. U.S. Patent 5,909,463 teaches a single-chip software configurable transceiver for asymmetric communication system.

H. Kuiri European Patent 803997 teaches a method and arrangement for producing a clock frequency in a radio device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T Harry whose telephone number is 703-305-4749. The examiner can normally be reached on M-F 8:30 - 5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Hunter can be reached on 703-308-6732. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

ATH

February 24, 2003


THANH CONG LE
PRIMARY EXAMINER

3/6/03

